Impressed by the fact that the two mucous membranes most prone to gonococcic invasion—that of the urethra and conjunctive, were frequently bathed by a fluid whose chloride content exceeded that of the blood serum or other secretions, a number of media were prepared wherein this factor was proportionately increased. No definite advantage was observed.

Of the commonly used media, such as human serum and human serum agar, ascites and hydrocele agar, pig and horse serum agar, hardly one in twenty inoculations proved successful. Success, too, seemed dependent upon the quantity of pus conveyed with the inoculation. This pus is the probable pabulum and the colonies rapidly die. On the other hand, these media are suitable for subcultures of most strains provided that the reaction be but weakly alkaline or preferably slightly acid and that transplantation be frequently performed.

Abel's human or rabbit blood smeared agar gives better results provided that the bactericidal power of the serum has been destroyed by inactivation at 56° C.

Thalmann's media was used blood streaked (inactivated) or admixed with human blood serum or hydrocele fluid. In all instances precaution was taken to maintain reaction as plus 0.6 to phenopthalein. This media gave the greatest number of successful inoculations, but even so, in about 45% of the inoculations the organism did not develop.

The media of Saboraud and Noiré, wherein the protein is casein to which is added pepton, glucose and urea and solidified with agar, although not giving the number of successful inoculations as did Thalmann's, had nevertheless the distinction in some instances of yielding colonies when the latter failed.

UPON THE EARLY DIAGNOSIS OF RENAL TUBERCULOSIS BY THE GENERAL PRACTITIONER.

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We are accustomed, of late, to point with justifiable pride to the marvelous progress of the science and art of medicine, by which the diagnosis as well as the treatment of all ailments, which human flesh is heir to, has been revolutionized. At the bedside, as well as in the laboratory, new methods of examination by means of complicated and delicate instruments and apparatus are in daily use at the hands of specialists, experienced in the interpretation of the results of their investigations. Thus at the great medical centers and particularly at the large modern hospitals a correct diagnosis of the more serious pathological conditions is now only considered feasible through so-called team-work, done in several special departments and aided by various laboratory tests. Gratifying as the results are, under this system, as regards the welfare of our patients, as proven by the marked and steadily growing decrease of the mortality rate, matters are, nevertheless, not quite as favorable for the general practitioner who has been brought up under this system at the teaching hospital of his college and who, when left to his own resources, has to make his diagnosis and to devise the proper and effective treatment by a less circuitous, complicated and costly route. For the most important aid towards accomplishing this end in view, viz., the art of observation, or the faculty to correctly interpret symptoms and to group them to a diagnosis, has not been sufficiently developed by the above described system. Thus it occurs that patients daily enter our hospitals with long-standing lesions, the earlier recognition of which would have spared them long suffering and a serious operation, often resulting in the loss of an important organ.

No special field of medicine has of late made more rapid strides as regards exactness of diagnosis and efficacy of treatment than urology. It is generally conceded that these excellent results are obtained through the skillful application of instruments of precision, and the opinion prevails among the rank and file of the profession that a urological lesion cannot be diagnosed without instrumentation. The first thought, therefore, when confronted with the solution of a urological problem, is of the cystoscope, which in the hands of the untrained physician is a useless and often dangerous toy. However, the correct recognition of many pathological conditions of the genito-urinary tract can often be accomplished, at the hands of the general practitioner, without special training, through much simpler methods, which at the same time are connected with less discomfort and risk to the patient.

It will be conceded to be an irrefutable fact, however obvious the statement may appear at first glance, that in order to diagnose a certain lesion one has to bear in mind the probability of its existence. Considering in this connection, one of the most frequent and important affections of the genito-urinary tract, viz., tuberculosis, the statement is ventured, that the main reason for the failure of its early recognition by the general practitioner lies in the fact that he is not on the outlook for it. The opinion held in many quarters, that urinary tuberculosis is a rare occurrence, is erroneous, as evidenced by Israel's [1] statement that more than 13 per cent. of all his kidney operations were done for tuberculosis. The same author somewhat caustically observes that, to his notion, the disease is a much more frequent occurrence than its early recognition.

One of the reasons that the disease is overlooked a long time or not recognized in its beginning is, that tuberculosis of an important organ, in the mind of the general practitioner, is always coincident with the dismal picture presented by pulmonary phthisis. The general condition and appearance, though, of patients suffering from advanced renal tuberculosis is quite often excellent. My last patient, operated for this disease, was a stout, fleshy matron of 40, who in spite of her urinary disturbances had steadily gained in weight. Under similar conditions every experienced urologist has removed tubercular kidneys from well-nourished and robust youths of both sexes. The main and most important reason, though, for the failure of an early diagnosis lies in the fact that the general practitioner cannot become divorced from the idea that, since all symptoms of renal

tuberculosis point to the bladder, he is dealing with a chronic and rebellious cystitis. It is marvelous how long such a protracted "catarrh of the bladder" will remain under medical care and treatment with the time-honored antiseptics and local irrigations until, as a rule, the patient is the first to inquire into the reason why the condition is getting worse and why it remains refractory to such continuous and energetic ministrations. Every practitioner ought to know at present that a pollakiuria, which has set in insidiously without a palpable cause, like gonorrhea, traumatism, instrumental infection, etc., which is running along with or without dysuria, which is characterized by cloudy, microscopically purulent urine, and which has become chronic, should be considered highly suspicious of renal tuberculosis. This suspicion should become intensified by observing the inefficacious or rather harmful effect of local treatment and a gradual decrease of the bladder capacity. At this point, repeated careful urinalyses will aid materially in the diagnosis. The urine, which may only be slightly cloudy, will always show besides many leukocytes a few red blood cells. Characteristic are also a slightly red discoloration of the urine (from admixture with blood) or a definite terminal hematuria. In the presence of these symptoms it is the duty of every modern practitioner of medicine to examine a catheterized specimen of the patient's urine for tubercle-bacilli, and if they, after repeated search, should not have been found, to verify or refute the suspected diagnosis by the guinea-pig test. In case this be positive, the modern practitioner, knowing tuberculosis of the urinary tract, almost without exception, to begin in one kidney and the patient's life to depend upon early treatment, will be able to advise his patient as regards ways and means for the exact localization and removal of the diseased focus.

In many instances satisfactory conclusions may be made even as regards localization of the focus. Although it is true that the majority of unilateral kidney lesions present obscure or only vague general symptoms, although, besides that, urinalysis as a rule does not add conclusive evidence pointing to the existence of a kidney affection, the practitioner may, nevertheless, by a painstaking investigation of the history and symptomatology of a given case, be able to gather sufficient material for a focal diagnosis. Aside from distinct attacks of kidney colic or pains located at one of the renal regions, which will obviously point to the seat of the focus, the patient will, upon close questioning, admit of sensations of pain, significant of a renal focus, which, at the time, were not considered of any moment. These sensations may be located at either of the lateral abdominal regions, near the crest of the ileum, the hip, the femur or the os sacrum. Occasionally a sensation of chilliness in one lumbar region is complained of. The judicious interpretation of the evidence obtained in this way will, quite often, permit of fair conclusions as regards the location of the disease, which Israel [2] was able to determine and to prove to be correct afterwards at the operating table in 70 per cent. of his cases. In this connection, the same excellent observer calls attention to the frequent occurrence of distinctly unilateral sensations of pain in one-half of the bladder, or urethra, or vagina, or in one labium, which are either connected with or noticeable independent from micturition. Another symptom, not occurring so frequently, but quite characteristic when present, is presented by sudden and intense paroxysms of bladder tenesmus with evacuation of a few drops of a clear, watery urine. These attacks, which as a rule are connected with chills and consequent sweating, point, in Israel's opinion, with absolute certainty to tubercular disease of one kidney.

The evidence obtained through palpation of the suspected kidney, and particularly a palpable enlargement of the kidney, should be accepted with caution, as a mere increase of the organ in size may be due to various other causes (nephrolithiasis, neoplasm, etc.). In some instances, though, the diagnosis is aided by the presence of certain pressure points in the course of the ureter. Painful sensations upon pressure, particularly at three points, viz.: at the juncture of the ureter with the renal pelvis, at its entrance into the bony pelvis, and at its entrance into the bladder, are held by Israel as characteristic of the disease. I have been able to convince myself in two cases of the correctness of Israel's observation, at least as regards the third pressure point, which can easily be reached from the rectum or the vagina, and which, especially in women, is rarely missing.

On the basis of the evidence brought forward above, the conclusion appears to be justified, that every modern physician, without special training and instruments, should be able, at present, to recognize the existence of urinary tuberculosis. I will admit that in some instances the diagnosis can only be made with a certain amount of probability. In the majority of cases, though, the practitioner, provided that he applies careful and painstaking study to the analysis of his case, will be able to gather sufficient data for a focal diagnosis.

The early diagnosis of urinary tuberculosis is most valuable to the patient. It is well known that the tubercular process which has once invaded a kidney will, unless eliminated, rapidly lead to the destruction of the organ, followed by infection of the urinary tract, and will inevitably prove fatal to the patient. Through the early recognition of the disease, the obvious advantages of the early removal of the primary focus and the avoidance of the greatest danger to the patient, viz.: secondary tubercular infection of the other kidney are obtained. The consensus of opinions of leading renal surgeons of the world still inclines towards nephrectomy as the only procedure by which, in by far the greatest majority of cases, disappearance of all secondary symptoms and constitutional improvement, equal to a cure, can be obtained. Gratifying as these results are, the loss of a vital organ is, nevertheless, too costly a price paid for them. In an early diagnosis, therefore, in the recognition of the disease, while still limited to its original focus or in one kidney, lies our only hope for a permanent cure by less radical and mutilating measures.

(1.) Fol: urolog. I, p. 11.
(2.) l. c. p. 13.